



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., Act. No. 30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA
Course Structure & Syllabus for B.Tech. (Regular)
R13 Regulations
MECHANICAL ENGINEERING

B.Tech. I Year

S.No.	Course code	Subject	Th	Tu/Drg/Lab.	Credits
1.	13A52101	Communicative English	2	- - -	3
2.	13A56101	Engineering Physics	2	- - -	3
3.	13A51101	Engineering Chemistry	2	- - -	3
4.	13A54101	Mathematics - I	3	1 - -	5
5.	13A12101	Programming in C & Data Structures	3	1 - -	5
6.	13A01101	Engineering Mechanics	3	1 - -	5
7.	13A03101	Engineering Drawing *	1	- 5 -	5
8.	13A12102	Programming in C & Data Structures Lab	-	- - 3	4
9.	13A99102	Engineering Physics & Engineering Chemistry Lab **	-	- - 3	4
10.	13A99103	Engineering & IT Workshop #	-	- - 3	4
11.	13A52102	English Language Comm. Skills Lab	-	- - 3	4
Total Credits					45

Th = Theory; Tu = Tutorial, Drg= Drawing & Lab = Laboratory:

* Engineering Drawing will have University External Exam.

** The students shall attend the Physics lab and Chemistry lab in alternate weeks. The end exam shall be conducted separately and average of the two exams shall be recorded by the University exam section.

The students shall attend Engineering workshop and IT work shop as a single lab every week and the end exam is conducted as a single lab. Sharing the Maximum marks and time for one task each from Engineering workshop and IT workshop. The sum of the marks awarded shall be recorded

B.Tech. II - I Semester

S.No	Course code	Subject	Theory	Tu/Drg/Lab	Credits
1.	13A54301	Mathematics – II	3	1 - -	3
2.	13A01308	Mechanics of Solids	3	1 - -	3
3.	13A99302	Electrical & Electronics Engineering	3	1 - -	3
4.	13A03301	Material Science and Engineering	3	1 - -	3
5.	13A03302	Thermodynamics	3	1 - -	3
6.	13A03303	Machine Drawing		6	3
7.	13A99303	Material Science Lab & Mechanics of Solids Lab		- - 3	2
8.	13A99304	Electrical & Electronics Engineering Lab	-	- - 3	2
9.	13A52301	Human Values and Professional Ethics(Audit Course)	2	- - -	-
Total Credits					22

B.Tech. II - II Semester

S.No	Course code	Subject	Theory	Tu / Lab	Credits
1.	13A01403	Environmental Science	3	1 -	3
2.	13A54303	Probability and Statistics	3	1 -	3
3.	13A03401	Kinematics of Machinery	3	1 -	3
4.	13A03402	Thermal Engineering – I	3	1 -	3
5.	13A01408	Mechanics of Fluids	3	1 -	3
6.	13A03403	Manufacturing Technology	3	1 -	3
7.	13A03404	Thermal Engineering Lab	-	- 3	2
8.	13A03405	Manufacturing Technology Lab	-	- 3	2
Total Credits					22

NOTE: For Machine Drawing:

- The End exam will be for 4 hrs in the following format
- All answers should be on the drawing sheet only. Answers on the drawing sheet only will be valued.
- First Angle Projections
 - Q1 Questions set on section I of the syllabus 2 out of 3 or 2 out of 4 to be answered with a weightage of 4 marks each-08 marks.
 - Q2 Questions set on section II of the syllabus 2 out of 3 to be answered with a weightage of 10 marks each-20 mrks.
 - Q3 Drawing of assembled views of section III items of syllabus with a weightage of 42 marks

B.Tech. III - I Semester

S.No	Course code	Subject	Theory	Tu / Lab	Credits
1.	13A03501	Hydraulic Machinery	3	1 -	3
2.	13A03502	Thermal Engineering - II	3	1 -	3
3.	13A03503	Dynamics of Machinery	3	1 -	3
4.	13A03504	Metal Forming Processes	3	1 -	3
5.	13A03505	Design of Machine Members - I	3	1 -	3
6.	13A03506	Heat Transfer	3	1 -	3
7.	13A03507	Heat Transfer Lab	-	- 3	2
8.	13A01509	Fluid Mechanics & Hydraulic Machinery Lab	-	- 3	2
Total Credits					22



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Revised Course Structure for B.Tech.- R13 Regulations

MECHANICAL ENGINEERING

III - II Semester

S.No	Course code	Subject	Theory	Tu / Lab	Credits
1.	13A52501	Managerial Economics & Financial Analysis.	3	1 -	3
2.	13A03601	CAD/CAM.	3	1 -	3
3.	13A03602	Machine Tools.	3	1 -	3
4.	13A03603	Refrigeration & Air Conditioning.	3	1 -	3
5.	13A03604	Design of Machine Members – II.	3	1 -	3
6.	13A03605	Choice Based Credit Courses a. Non Conventional Source of Energy.	3	1 -	3
	13A03606	b. Total Quality Management.			
	13A03607	c. Mechatronics.			
7.	13A03608	CAD Lab.	-	- 4	2
8.	13A03609	Machine Tools Lab.	-	- 4	2
9.	13A52502	Advanced English Language Communication Skills Lab (Audit Course)		3	
10	13A03610	Comprehensive Online Examination – II	-	- -	1
			18	6 11	23


DIRECTOR
Academic & Planning
JNT University Anantapur,
Ananthapuramu-515 002.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

**Course Structure for Mechanical Engineering
B. Tech Course
(2013-14)**

IV B. Tech – I Sem

S.No.	Course Code	Subject	Theory	Tu	Lab	Credits
1	13A03701	Operations Research	3	1	-	3
2	13A03702	Automation and Robotics	3	1	-	3
3	13A03703	Finite Element Methods	3	1	-	3
4	13A03704	Metrology and Measurements	3	1	-	3
5	13A03705 13A03706 13A03707	CBCC II a. Automobile Engineering. b. Tool Design c. Tribology	3	1	-	3
6	13A03708 13A03709 13A03710	CBCC III a. Computational Fluid Dynamics b. Concurrent Engineering c. Production & Operations Management	3	1	-	3
7	13A03711	Metrology and Measurements Laboratory	-	-	4	2
8	13A03712	Computer Aided Engineering Laboratory	-	-	4	2
Total			18	06	08	22



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**Course Structure for Mechanical Engineering
B. Tech Course
(2013-14)**

IV B. Tech – II Sem

S. No	Course Code	Subject	Theory	Tu	Lab	Credits
1	13A03801 13A03802 13A03803	MOOCS I a. Industrial Engineering b. Entrepreneurship c. Composite Materials	3	1	-	3
2	13A03804 13A03805 13A03806	MOOCS II a. Power Plant Engineering b. Gas Turbines and Jet Propulsion c. Energy Management	3	1	-	3
3	13A03807 13A03808 13A03809	MOOCS III a. Modern Manufacturing Methods b. Rapid Proto Typing c. Product Design	3	1	-	3
4	13A03810	Technical Seminar	-	-	4	2
5	13A03811	Project work	-	-	24	12
		Total	09	03	28	23

3 Theory + 1 Technical Seminar + 1 Project work

***Either by MOOCS manner or Self study or Conventional manner**